# Michigan State Police Retirement System



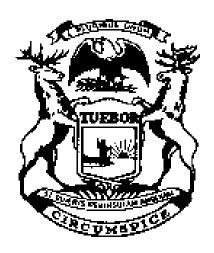
Comprehensive Annual Financial Report for the Fiscal Year Ended September 30, 1999

A Pension Trust Fund of the State of Michigan

John Engler, Governor

# Michigan State Police Retirement System a Pension Trust Fund of the State of Michigan

# Comprehensive Annual Financial Report for the Fiscal Year Ended September 30, 1999



# **MSPRS**

Prepared by:
Office of Retirement Services
P.O. Box 30171
Lansing, Michigan 48909-7671
517-322-5103
1-800-381-5111

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The cost of printing this report was \$1,179.16 (3.14 each), which was paid for by the retirement system at no cost to taxpayers.

# **INTRODUCTORY SECTION**

Certificate of Achievement Letter of Transmittal Board Members Advisors & Consultants Organization Chart

### **Certificate of Achievement**

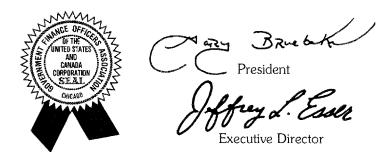
# Certificate of Achievement for Excellence in Financial Reporting

Presented to

# Michigan State Police Retirement System

For its Comprehensive Annual Financial Report for the Fiscal Year Ended September 30, 1998

A Certificate of Achievement for Excellence in Financial Reporting is presented by the Government Finance Officers Association of the United States and Canada to government units and public employee retirement systems whose comprehensive annual financial reports (CAFRs) achieve the highest standards in government accounting and financial reporting.



### **Letter of Transmittal**

State Police Retirement System P.O. Box 30171 Lansing, Michigan 48909-7671 Telephone 517-322-5103 Outside Lansing 1-800-381-5111

### STATE OF MICHIGAN

JOHN ENGLER, Governor

### DEPARTMENT OF MANAGEMENT AND BUDGET

February 10, 2000

The Honorable John Engler Governor, State of Michigan,

Members of the Legislature State of Michigan

Retirement Board Members and Members, Retirees and Beneficiaries

Ladies and Gentlemen:

We are pleased to present the annual report of the Michigan State Police Retirement System (System) for fiscal year 1999.

Responsibility for both the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with the leadership team of the System. To the best of our knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the System.

The Michigan State Police Retirement System was established by legislation under Public Act 251 of 1935. It now operates under the provisions of Public Act 182 of 1986 as amended, and is administrated by the Office of Retirement Services (ORS). The number of active and retired members and beneficiaries of the System is presented in Note 1 of the financial statements in the Financial Section of this report. The purpose of the System is to provide benefits for all state police. The services performed by the staff provide benefits to members.

The 1999 annual report is presented in five sections. The Introductory Section contains the transmittal letter and identifies the administrative organization and professional consultants used by the System. The Financial Section contains the financial statements of the System and certain supplemental schedules. The Investment Section summarizes investment activities. The Actuarial Section contains the independent consulting actuary's certification, an outline of actuarial assumptions and methods, and other actuarial statistics. The Statistical Section contains statistical tables of significant data pertaining to the System.

# **Letter of Transmittal** (Continued)

### MAJOR GOALS ACCOMPLISHED

Providing excellent service to ORS customers now and into the future requires a focused effort by management and staff. This year, ORS began strategic planning to move ORS towards its newly established mission and vision, which are:

ORS Mission: We deliver pensions, related benefits and services to promote the future financial security of our customers.

ORS Vision: Fast, easy access to complete and accurate information and exceptional service.

The State of Michigan worked aggressively to ensure compliance with Year 2000 requirements for the state's critical information systems, including the state's retirement systems. In ORS, systems such as those which handle annual statements, member billings, service credit evaluations, beneficiary nominations, and the payment of retiree pensions and 1099R distribution were all completed by September 30, 1999.

ORS designed a contingency plan to make sure customer records were protected and business processes would continue on schedule if a natural disaster struck, or systems and processes outside of ORS created potential business disruptions if they were not adequately compliant for Year 2000. Contingency plans were in place to ensure ORS could continue to provide essential services, such as issuing monthly pension payments, placing new pension recipients on payroll, and enrolling retirees in their appropriate insurance plans. ORS is pleased to report that no service or system disruptions were experience due to Year 2000.

ORS is identified by other organizations across the country for the use of innovative solutions to problems. Several companies and governmental entities, including Blue Cross/Blue Shield of Michigan, the State of New Jersey Division of Pension and Benefits, Minnesota Teachers' Retirement System, Oregon Public Employees' Retirement System, and the Segal Company, sent representatives to hear about ORS' techniques for responding to major organizational changes, reengineering business processes, and striving to be a more customer-focused organization. One of the major areas of interest was the Customer Information Center (CIC) telephone response group. The CIC services approximately 240 personal counseling visits per month and handles an average of 13,733 of the 19,776 telephone calls ORS receives each month.

New channels of communication have been created to keep in touch with ORS' various customers. The *Connections* retiree newsletter continues to provide pension recipients with a link to current activities at ORS. Other newsletters reach ORS staff and human resource offices, with additional newsletters in development to reach other specialty audiences. Providing updates to interested parties has become easier with the introduction of ListServ technology which allows individuals to "subscribe" to an Internet notification system. ORS staff have been able to efficiently reach larger audiences in remote locations with timely information using video conferencing and satellite broadcasting.

In February 1999, ORS launched a new Internet web site to make available a wealth of information to interested parties, and allow interactive communications between customers and staff. ORS customers can now access copies of publications, forms, retirement acts, and pension calculation estimators, along with general information about the System.

### CERTIFICATE OF ACHIEVEMENT

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the System for its comprehensive annual financial report for the fiscal year ended September 30, 1998.

# **Letter of Transmittal** (Continued)

In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report, whose contents conform to program standards. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

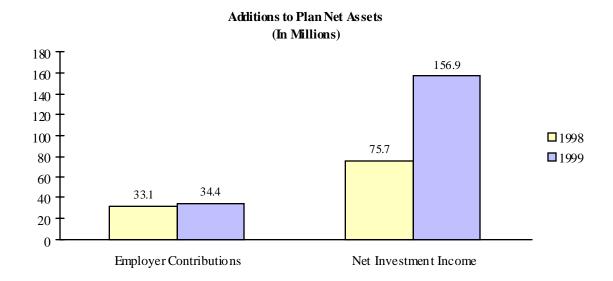
A Certificate of Achievement is valid for a period of one year only. We believe our current report continues to conform to the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

### FINANCIAL INFORMATION

### Additions to Plan Net Assets

The reserves needed to finance retirement and health benefits are accumulated through the collection of employer contributions and through earnings on investments. Contributions and net investment income for fiscal year 1999 totaled approximately \$192.3 million.

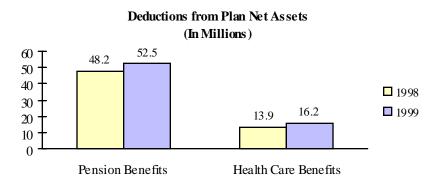
Total contributions and net investment income increased 75.2% from those of the prior year due primarily to increased investment earnings. Employer pension contributions increased 8% and net investment income increased 107.2% from the prior year. The Investment Section of this report reviews the results of investment activity for 1999.



### Deductions From Plan Net Assets

The primary expenditures of the System include the payment of pension benefits to members and beneficiaries, payments for health, dental and vision benefits, refund of contributions to former members, and cost of administering the System. Expenditures for health care increased by \$2.3 million from \$13.9 million to \$16.2 million during the fiscal year. Total deductions for fiscal year 1999 were \$69.0 million, an increase of 10.8% over 1998 deductions. The 8.8% increase in pension benefit expenditures resulted from a combination of increased benefit payments per retiree and increased number of retirees paid.

# Letter of Transmittal (Continued)



### Internal Control

The leadership team of the System is responsible for maintaining adequate internal accounting controls designed to provide reasonable assurance that transactions are executed in accordance with management's general or specific authorization, and are recorded as necessary to maintain accountability for assets and to permit preparation of financial statements in accordance with generally accepted accounting principles. The internal control structure is designed to provide reasonable assurance regarding the safekeeping of assets and reliability of all financial records.

### INVESTMENT

The State Treasurer is the investment fiduciary and custodian of all investments of the System pursuant to state law. The primary investment objective is to maximize the rate of return on the total investment portfolio, consistent with a high degree of prudence and sufficient diversity to eliminate inordinate risks and to meet the actuarial assumption for the investment return rate. The investment activity for the year produced a total rate of return on the portfolio of 15.5%. For the last five years, the System has experienced an annualized dollar weighted rate of return of 15.8%. A summary of asset allocation and rates of return can be found in the Investment Section of this report.

### **FUNDING**

Funds are derived from the excess of additions to plan net assets over deductions from plan net assets. Funds are accumulated by the System in order to meet future benefit obligations to retirees and beneficiaries. The percentage computed by dividing the actuarial value of assets by the actuarial accrued liability is referred to as the "funded ratio." This ratio provides an indication of the funding status of the System and, generally, the greater this percentage, the stronger the System. As of September 30, 1999, the actuarial value of the assets and actuarial accrued liability of the System were \$1.037 billion and \$1.007 billion resulting in a funded ratio of 103%. As of September 30, 1998, the amounts were \$974 million and \$962 million respectively.

A historical perspective of funding levels for the System is presented in the Required Supplementary Information in the Financial Section of this report.

### **POSTEMPLOYMENTBENEFITS**

The system also administers the postemployment health benefits (health, dental, and vision) offered to retirees. The benefit are funded on a cash or "pay as you go" basis. An actuarial valuation was completed to determine the actuarial accrued liability if the benefit were to be pre-funded. If these benefits were pre-funded, the actuarial accrued liability for these benefits would be approximately \$378 million and the employer's contributions rate would be 23.14%.

# Letter of Transmittal (Continued)

### PROFESSIONAL SERVICES

An audit of the System was conducted by Andrews Hooper & Pavlik P.L.C., independent auditors. The auditors' report on the System's financial statements is included in the Financial Section of this report.

Statute requires that an annual actuarial valuation be conducted. The purpose of the valuation is to evaluate the mortality, service, compensation and other financial experience of the System and to recommend employer funding rates for the subsequent year. This annual actuarial valuation was completed for the fiscal years ended September 30, 1999 and 1998, by the Segal Company. Actuarial certification and supporting statistics are included in the Actuarial Section of this report.

### ACKNOWLEDGMENTS

The preparation of this report was accomplished with the dedication and cooperation of many people. It is intended to provide complete and reliable information as a basis for making management decisions, as a means of determining compliance with legal provisions, and as a means for determining responsible stewardship of the funds of the System.

We would, therefore, like to express our appreciation for the assistance given by staff, advisors and many people who contributed to its preparation. We believe their combined efforts have produced a report that will enable the employer and plan members to better evaluate and understand the Michigan State Police Retirement System. Their cooperation contributes significantly to the success of the System.

Sincerely,

Janet E. Phipps, Director

Department of Management and Budget

hustopher M. DeRose

Christopher M. DeRose, Director Office of Retirement Services

### **Administrative Organization**

### **Retirement Board Members**

Dr. James S. Neubecker, CPA, Chair Deputy Auditor General Statutory Member

Lt. Col. James R. Snody, Jr. Retiree Member Term Expires December 31, 1999

Jan Miller Representing State Employer Statutory Member D/Sgt. William E. Olney Representing Sergeants & Below Term Expires December 31, 2000

Kenneth Harb General Public Term Expires December 31, 2000

George M. Elworth Representing Attorney General Statutory Member Inspector Richard J. Darling Representing Lieutenant and Above Terms Expires December 31, 2001

Roy Pentilla, CPA Representing State Treasurer Statutory Member

Capt. Marie Waalkes Representing Director, Dept. of State Police Statutory Member

### **Administrative Organization**

Department of Management and Budget
Office of Retirement Services
P.O. Box 30171, Lansing, Michigan 48909-7671
517-322-5103
1-800-381-5111

### **Advisors and Consultants**

### Actuary

The Segal Company Michael J. Karlin, F.S.A., M.A.A.A. New York, New York

### **Auditors**

Thomas H. McTavish, C.P.A. Auditor General State of Michigan

Andrews Hooper & Pavlik P.L.C. Jeffrey J. Fineis, C.P.A. Okemos, Michigan

# **Investment Manager and Custodian**

Mark A. Murray State Treasurer State of Michigan

**Legal Advisor** Jennifer M. Granholm Attorney General

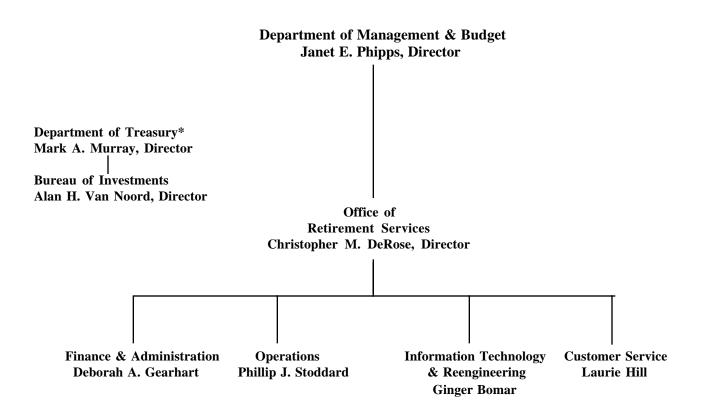
State of Michigan

Investment Performance Measurement Capital Resource Advisors

Chicago, Illinois

### **Administrative Organization**

### **Organization Chart**



<sup>\*</sup>The investments of the system are managed by the Michigan Department of Treasury. Information on the investments and the fiduciary, Michigan Department of Treasury, can be found in the Investment Section.

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Independent Auditors' Report Statements of Plan Net Assets Statements of Changes in Plan Net Assets Notes to Financial Statements Required Supplementary Information Supporting Schedules

### **Independent Auditors' Report**



Ms. Janet Phipps, Director
Department of Management and Budget
Mr. Christopher M. DeRose, Director
Office of Retirement Systems
Mr. Thomas H. McTavish, CPA
Auditor General
Michigan State Police
Retirement System Board

We have audited the accompanying statements of pension plan and postemployment healthcare plan net assets of the Michigan State Police Retirement System, as of September 30, 1999 and 1998, and the related statements of changes in pension plan and postemployment healthcare plan net assets for the years then ended. These financial statements are the responsibility of the management of the Michigan State Police Retirement System. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards and Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to in the first paragraph present fairly, in all material respects, the financial position of the Michigan State Police Retirement System, as of September 30, 1999 and 1998, and the changes in plan net assets for the years then ended in conformity with generally accepted accounting principles.

Our audit was conducted for the purpose of forming an opinion on the financial statements taken as a whole. The required supplementary information and supporting schedules listed in the table of contents are presented for the purpose of additional analysis and are not a required part of the basic financial statements. The required supplementary information and supporting schedules are the responsibility of the System's management. The Schedules of Funding Progress and Employer Contributions and related notes on pages 26 to 28 and the supporting schedules on pages 30 to 33 have been subjected to the auditing procedures applied in our audit of the basic financial statements and, in our opinion, are fairly stated in all material respects when considered in relation to the basic financial statements taken as a whole. The Year 2000 information on page 29 is not a required part of the basic financial statements but is supplementary information required by the Governmental Accounting Standards Board. We have applied certain limited procedures, which consisted principally of inquiries of management regarding the methods of measurement and presentation of the supplementary information. However, we did not audit the information and do not express an opinion on it. In addition, we do not provide assurance that Michigan State Police Retirement System is or will become year 2000 compliant, that Michigan State Police Retirement System does business are or will become year 2000 compliant.

In accordance with *Government Auditing Standards*, we have also issued a report dated January 27, 2000 on our consideration of the Michigan State Police Retirement System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, and contracts.

andrews Loope & Tarlik P.L.C.

January 27, 2000

4295 Okemos Road, Suite 200 • Okemos, Michigan 48864 • ph 517.487.5000 fx 517.487.9535 • www.ahpplc.com

# Statement of Pension Plan and Postemployment Healthcare Plan Net Assets As of fiscal year ended September 30, 1999 and 1998

	As of September 30, 1999		As of September 30, 1998				
	Pension		Health	_	Pension	Health	_
	Plan		Plan	Total	Plan	Plan	Total
Assets:							
Cash	\$ 5,110,202	\$	9,659	\$ 5,119,861	\$ 7,208,889	\$ 32,904	\$ 7,241,793
Receivables:							
Amounts due							
from employer	1,171,716		2,215	1,173,931	871,786	3,979	875,765
Interest and dividends	4,661,288		8,810	4,670,098	3,968,611	18,115	3,986,726
Sale of investments	807,732		1,527	809,259	684,214	3,123	687,337
Total receivables	6,640,736		12,552	6,653,288	5,524,611	25,217	5,549,828
Investments:							
Short term investments	39,291,139		74,265	39,365,404	47,865,311	218,476	48,083,787
Bonds, notes mort gages							
and preferred stock	240,702,516		454,954	241,157,470	237,055,393	1,082,016	238,137,409
Common stock	560,169,734		1,058,782	561,228,516	476,971,444	2,177,090	479,148,534
Real estate	81,941,157		154,877	82,096,034	78,611,270	358,813	78,970,083
Alternative investments	109,470,138		206,911	109,677,049	85,927,799	392,209	86,320,008
International investments	61,958,337		117,108	62,075,445	39,642,333	180,943	39,823,276
Collateral on							
loaned securities	28,453,575		53,781	28,507,356	40,161,861	183,315	40,345,176
Total investments	1,121,986,596		2,120,678	1,124,107,274	1,006,235,411	4,592,862	1,010,828,273
Total assets	1,133,737,534		2,142,889	1,135,880,423	1,018,968,911	4,650,983	1,023,619,894
Liabilities:							
Warrant's outstanding	189,418		358	189,776	232,915	1,063	233,978
Accounts payable and	,				,	-,	
other accrued liabilities	2,341,150		4,425	2,345,575	1,520,392	6,940	1,527,332
Obligations under	,- ,		, -	, ,	,,		,,-
securities lending	28,453,576		53,780	28,507,356	40,161,861	183,315	40,345,176
Total liabilities	30,984,144		58,563	31,042,707	41,915,168	191,318	42,106,486
Net Assets Held in Trust for							
Pension and Healthcare Benefit	\$ \$1,102,753,390	\$	2,084,326	\$1,104,837,716	\$ 977,053,743	\$4,459,665	\$ 981,513,408

<sup>\*</sup>A schedule of funding progress is presented in the Required Supplementary Information of the Financial Statements

The accompanying notes are an integral part of these financial statements

# **Statement of Changes in Pension Plan and Postemployment Healthcare Plan Net Assets**

For fiscal years ended September 30, 1999 and 1998

	September 30, 1999			September 30, 1998		
	Pension	Health		Pension	Health	
	Plan	Plan	Total	<u>Plan</u>	Plan	Total
Additions:						
Members contributions:						
Other	\$ 1,673	\$ 992,839	\$ 994,512		\$ 884,009	\$ 884,009
Military	6,006		6,006	\$ 38,727		38,727
Employer contributions	21,609,520	12,838,366	34,447,886	20,003,807	13,119,577	33,123,384
Investment income:						
Investment income	157,966,090		157,966,090	76,404,676		76,404,676
Securitites lending income	1,574,308		1,574,308	1,757,372		1,757,372
Investment expenses:						
Real estate operating expenses	(122,135)		(122,135)	(65,891)		(65,891)
Securities lending expenses	(1,484,626)		(1,484,626)	(1,701,125)		(1,701,125)
Other investment expenses	(1,036,909)		(1,036,909)	(668,755)		(668,755)
Total additions	178,513,927	13,831,205	192,345,132	95,768,811	14,003,586	109,772,397
Deductions:						
Benefits paid to plan members						
and bene ficiaries:						
Retirement benefits	52,486,589		52,486,589	48,227,332		48,227,332
Health benefits		15,092,102	15,092,102		12,786,623	12,786,623
Dental/vision benefits		1,114,442	1,114,442		1,069,480	1,069,480
Refunds of member contributions	4,694		4,694			
Administrative expenses	322,997		322,997	225,327		225,327
Total deductions	52,814,280	16,206,544	69,020,824	48,452,659	13,856,103	62,308,762
Net Increase (Decrease)	125,699,647	(2,375,339)	123,324,308	47,316,152	147,483	47,463,635
Net Assets Heldin Trust for Pension	n					
and Healthcare Benefits:						
Beginning of Year	977,053,743	4,459,665	981,513,408	929,737,591	4,312,182	934,049,773
End of Year*	\$ 1,102,753,390	\$ 2,084,326	\$ 1,104,837,716	\$ 977,053,743	\$ 4,459,665	\$ 981,513,408

 $<sup>*</sup>A \ Schedule \ of funding \ progress \ is \ presented \ in the \ Required \ Supplementary \ Information \ of \ the \ Financial \ Section.$ 

The accompanying notes are an integral part of these financial statements

### Notes to General Purpose Financial Statements

### **NOTE 1 - PLAN DESCRIPTION**

### **ORGANIZATION**

The Michigan State Police Retirement System is a single employer, state-wide, defined benefit public employee retirement plan governed by the State of Michigan (State), originally created under Public Act 251 of 1935, recodified and currently operating under Public Act 182 of 1986. The System was established by the State to provide retirement, survivor and disability benefits to Michigan State Police. The System is a qualified trust fund under section 401(a) of the Internal Revenue Code.

The System's financial statements are included as a pension trust fund in the combined financial statements of the State of Michigan.

The System is administrated by the Office of Retirement Services within the Michigan Department of Management and Budget, Office of Retirement Services. The Department Director appoints the Office Director who serves as Executive Secretary to the System's board, with whom the general oversight of the System resides. The State Treasurer serves as the investment officer and custodian for the System.

### **MEMBERSHIP**

At September 30, 1999, and 1998, the System's membership consisted of the following:

Retirees and beneficiaries		
currently receiving benefits:	1999	_1998
Regular benefits	1,763	1,695
Survivor benefits	338	319
Disability benefits	130	124
Total	2,231	2,138
Current employees:		
Vested	1,304	1,177
Non-vested	912	1,043
Total	2,216	2,220
Inactive employees entitled		
to benefits and not yet		
receiving them	15	21
Total All Members	4,462	4,379

Enrollment in the health care fund is voluntary. The number of participants is as follows:

Health/Dental/Vision Plan	1999	1998
Eligible participants	2,231	2,138
Participants receiving benefits:		
Health	2,003	1,929
Dental	1,969	1,887
Vision	1,972	1,891

### **Notes to General Purpose Financial Statements**

### BENEFIT PROVISIONS

### Introduction

Benefit provisions of the defined benefit pension plan are established by state statute, which may be amended. Public Act 182 of 1986, State Police Retirement Act, as amended, establishes eligibility and benefit provisions for the defined benefit pension plan. Retirement benefits are determined by final average compensation and years of service. Members are eligible to receive a monthly benefit when they meet certain age and service requirements. The System also provides duty disability, non-duty disability and survivor benefits.

A member who leaves State Police employment may request a refund of his or her member contribution account. A refund cancels a former member's rights to future benefits and there is no provision for repaying the refund of contributions to restore the service represented by the refund.

### Regular Retirement

The retirement benefit is available if a member retires after 25 years of credited service (employment). The retirement benefit equals 60% of a member's final average compensation and is payable monthly over the lifetime of a member. Final average compensation is the average annual salary for a member's last two years of service with the Department of State Police.

### Deferred Retirement

Any member with 10 or more years of credited service who terminates employment but has not reached the age of 50 is a deferred member and is entitled to receive a monthly allowance upon reaching age 50, provided the member's accumulated contributions have not been refunded. The deferred benefit is equal to two percent of the final average compensation times the years of service credit.

### Non-Duty Disability Benefit

A member with 10 or more years of credited service who becomes totally and permanently disabled not due to performing duties as an employee of the State Police is eligible for a non-duty disability pension. The non-duty disability benefit is 2.4% of the final average compensation times years of credited service (but not more than 25 years).

### Duty Disability Benefit

A member who becomes totally and permanently disabled from performing duties as a State Police Officer is eligible for a duty disability pension. The amount, payable monthly, is equal to 60% of the final average compensation.

### Survivor Benefit

Upon the death of a member who completed at least 10 years of service, the surviving spouse receives a benefit based on 2.4% of the final average compensation for each year of credited service. If there is no spouse, surviving children are entitled to equally share the benefit until age 18. If death occurs in the line of duty, the surviving spouse receives a benefit of 60% of the final average compensation. Children receive \$100 each month until age 18. A \$1,500 funeral expense is also authorized by statute.

Effective October 1, 1996, the monthly pension paid to beneficiaries was increased 10% if certain requirements were met. This was a one time increase.

Each October 1, the benefit increases 2% (not to exceed \$500). This non-compounding increase is paid to beneficiaries who have been receiving benefits for 12 months.

### **Notes to General Purpose Financial Statements**

### Post Retirement Adjustments

Effective October 1, 1996, the monthly pension was increased 10% if certain requirements were met. This was a one time increase.

Each October 1, the benefits of all pension recipients increase 2% (not to exceed \$500). This non-compounding increase is paid to persons who have been retired 12 months.

### **Contributions**

Member Contributions — Members currently participate on a noncontributory basis. Under certain circumstances, members may contribute to the System for the purchase of creditable service, such as military, maternity or paternity leave, Peace Corps or VISTA service. If a member terminates employment before a retirement benefit is payable, the member's contribution and interest on deposit are refunded. If the member dies before being vested, the member's contribution and interest are refunded to the designated beneficiaries.

Employer Contributions — The statute requires that the employer contribute to finance the benefits of plan members. These employer contributions are determined annually by the System's actuary and are based upon level-percent-of-payroll funding principles so that the contribution rates do not have to increase over time. A chart showing the employer contribution rates is included on the Schedule of Revenue by Source in the Statistical Section.

### Other Post Employment Benefits

Under the State Police Retirement Act, all retirees have the option of continuing health, dental and vision coverage. Retirees with this coverage contribute 5% and 10% of the monthly premium amount for the health, dental and vision coverage, respectively. The State funds 95% of the health and 90% of the dental and vision insurance. The payroll contribution rate was 10.84% for 1999 and 1998.

Retirees are provided with life insurance coverage equal to 25% of the active life insurance coverage, \$1,000 for spouse and \$1,000 for each dependent under age 23. Premiums are fully paid by the State.

### NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

### Basis of Accounting and Presentation

Financial statements are prepared using the accrual basis of accounting. Contributions from the State are recognized as revenue in the period in which employees provide service. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

### Reserves

Public Act 182 of 1986, as amended, created the Reserve for Employees' Contributions, Reserve for Retired Benefit Payments, Reserve for Employer Contributions, Reserve for Undistributed Investment Income, and Reserve for Health Benefits and Dental and Vision Benefits. The financial transactions of the plan are recorded in these accounts as required by Public Act 182 of 1986, as amended.

Reserve for Employees' Contributions — Members do not contribute to this fund except to purchase eligible service credit. This fund represents active member contributions and interest less amounts transferred to the Pension Reserve for regular and disability retirement, amounts refunded to terminated members, and unclaimed amounts transferred to the income account. At September 30, 1999, and 1998, the balance in this account was \$464 thousand and \$614 thousand respectively.

### **Notes to General Purpose Financial Statements**

Reserve for Retired Benefit Payments — This represents the reserves for payment of future retirement benefits to persons already on the retirement rolls. At retirement, a member's accumulated contributions plus interest are transferred into this reserve from the Reserve for Employees' Contributions. Monthly benefits, which are paid to the retirees, reduce this reserve. At the end of each fiscal year, an amount is transferred from the Reserve for Employer Contributions to bring the balance into balance with the actuarial present value of retirement allowances. At September 30, 1999, and 1998, the balance in this account was \$583 million and \$522 million respectively.

Reserve for Employer Contributions — All employer contributions are credited to this reserve. Interest from the Reserve for Undistributed Investment Income is credited annually. Amounts are transferred annually from this reserve to the Reserve for Retired Benefit Payments to fund that reserve. At September 30, 1999, and 1998, the balance in this account was \$216 million and \$246 million respectively.

Reserve for Undistributed Investment Income — The reserve is credited with all investment earnings and changes in fair value of assets. Interest is transferred annually to the other reserves. Administrative expenses are paid from this reserve account. The legislature appropriates the funds necessary to defray and cover the administration of the plan. At September 30, 1999, and 1998, the balance of this reserve was \$304 million and \$209 million respectively.

Reserve for Health Related Benefits — This reserve is credited with employer contributions for retirees' health benefits. From this reserve, the retirement system pays 95% of the premiums for hospitalization and medical coverage insurance and 90% of the monthly premium for dental and vision coverage insurance. At September 30, 1999, and 1998, the balance in this account was \$2.1 million and \$4.5 million respectively.

### Fair Value of Investments

Plan investments are reported at fair value, except for short-term investments. Short-term investments are carried at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Corporate bonds not traded on a national or international exchange are based on equivalent values of comparable securities with similar yield and risk. Real estate debt is valued on the basis of future principal and interest payments and is discounted at prevailing interest rates for similar instruments. The fair value of real estate investments is based on independent appraisals. Other investments that do not have an established market are recorded at estimated fair value.

### Reporting Entity

The System is a pension trust fund of the State of Michigan. As such, the System is considered part of the State and is included in the State's comprehensive annual financial report as a pension trust fund. The System and its board are not financially accountable for any other entities or other organizations. Accordingly, the system is the only entity included in this financial report.

### Investment Income

Dividend income is recognized based on the ex-dividend date and interest income is recognized on the accrual basis as earned. Fair value changes are recorded as investment income or loss. Purchases and sales of investments are recorded as of the trade date (the date upon which the transaction is initiated), except for purchase and sale of mortgages, real estate, and alternative investments which are recorded as of the settlement date (the date upon which the transaction is ultimately completed). The effect of recording such transactions as of the settlement date does not materially affect the financial statements.

### **Notes to General Purpose Financial Statements**

### Property and Equipment

Office space is leased from the State on a year to year basis. Office equipment is capitalized if the value exceeds \$5,000. These assets are recorded at cost and are reported net of depreciation in the Statement of Plan Net Assets. Such assets are depreciated on a straight line basis over 10 years. The System does not have equipment that falls within these parameters.

### Related Party Transactions

Leases and Services — The Retirement System leases operating space and purchases certain administrative, data processing, legal and investment services from the State. The space and services are not otherwise available by competitive bid. The following summarizes costs incurred by the System for such services.

	1999		1998
Building Rentals	\$4,845	\$	3,878
Technological support	48,218		36,646
Legal	7,553		10,368
Investment	177,400	1	50,248

Cash — On September 30, 1999 and 1998 the System had \$5 million and \$7 million respectively in a common cash investment pool maintained for various State operating funds. The participating funds in the common cash pool earn interest at various rates depending upon prevailing short-term interest rates. Earnings from these activities amounted to \$162,404 and \$383,894 for the years ended September 30, 1999, and 1998, respectively.

### Reclassification of Prior Year Amounts

Certain prior year amounts have been reclassified or restated to conform with the current year presentation.

### **NOTE 3 - CONTRIBUTIONS**

Members currently participate in the System on a noncontributory basis. Under certain circumstances, members may contribute to the System for the purchase of creditable service, such as military service or maternity leave. The State is required by Public Act 182 of 1986 as amended, to contribute amounts necessary to finance the benefits of its employees. Contribution provisions are specified by state statute and may be amended only by action of the state legislature.

Periodic employer contributions to the System are determined on an actuarial basis using the entry age normal actuarial cost method. Under this method, the actuarial present value of the projected benefits of each individual included in the actuarial valuation is allocated on a level basis over the service of the individual between entry age and assumed exit age. The portion of this cost allocated to the current valuation year is called the normal cost. The remainder is called the actuarial accrued liability. Normal cost is funded on a current basis. The actuarial accrued liability is amortized over a 37-year period for the 1998-99 fiscal year.

Actual employer contributions for retirement benefits were \$21.6 million and \$20.0 million representing 18.3% and 18.5% of annual covered payroll, for the years ended September 30, 1999, and 1998, respectively. Required employer contributions for pensions included:

- 1. \$23 million and \$25 million for fiscal years 1999 and 1998, respectively, for normal cost of pensions representing 21.56% and 22.8%, respectively, of annual covered payroll.
- 2. (\$595) thousand and (\$2.1) million for fiscal years 1999 and 1998, respectively, for amortization of (overfunded)/unfunded actuarial accrued liability, representing (0.55%) and (1.93%), respectively, of annual covered payroll.

### Notes to General Purpose Financial Statements

### **NOTE 4 - INVESTMENTS**

### **Investment Authority**

Under Public Act 380 of 1965, as amended, the authority for the purchase and the sale of investments resides with the State Treasurer. Investments are made subject to the Michigan Public Pension Investment Act, Public Act 314 of 1965, as amended. The Michigan Public Pension Investment Act authorizes, with certain restrictions, the investment of pension fund assets in stock, corporate and government bonds and notes, mortgages, real estate, and certain short term and alternative investments. Investments must be made for the exclusive purposes of providing benefits to active members, retired members and beneficiaries, and for defraying the expenses of investing the assets.

Under Public Act 314 of 1965, as amended, the State Treasurer may invest up to 5% of the System's assets in small businesses having more than one-half of assets or employees in Michigan as described in section 20(a) of the act and up to 15% of the System's assets in investments not otherwise qualified under the act as described in section 20(d). Alternative investments include limited partnerships and distributions from these partnerships in the form of bonds, common stock and direct investments.

### Derivatives

The State Treasurer does not employ the use of derivatives in the investment of the Common Cash or the investment of trust funds other than the pension trust funds.

Derivatives are used in managing the pension trust fund portfolios, but uses do not include speculation or leverage of investments. Less than 6% of the total pension trust fund's portfolio has been invested from time to time in futures contracts, collateralized mortgages and swap agreements. State investment statues limit total derivative exposure to 15% of a fund's total asset value, and restrict uses to replication of returns and hedging of assets. Swap agreements represent the largest category of derivatives used, and they represented 5.6% of the market value of total assets on September 30, 1999.

To diversify the pension fund's portfolio into international equities, the State Treasurer has entered into swap agreements with investment grade counterparties which are tied to stock market indices in eighteen foreign countries. The notional amounts of the swap agreements at September 30, 1999, and 1998, were \$50.83 million and \$40.62 million, respectively. Approximately one half of the notional amount is hedged against foreign currency fluctuations. The swap agreements provide that the System will pay quarterly, over the term of the swap agreements, interest indexed to the three month London InterBank Offer Rate (LIBOR), adjusted for an interest rate spread, on the notional amount stated in the agreements. At the maturity of the swap agreements the pension fund will either receive the increase in the value of the international equity indices from the level of the indices at the inception of the agreements, or pay the decrease in the value of the indices. Swap agreement maturities range from October 1999 to August 2002. US domestic LIBOR based floating rate notes were purchased in the open market to correspond with the notional amount of the swap agreements. The State Treasurer maintains custody and control of these notes.

The value of these synthetic equity structures is a combination of the value of the swap agreements and the value of the notes. The current value represents the current value of the notes and the change in value of the underlying indices from the inception of the swap agreements. The current value is used as a representation of the fair value based upon the intention to hold all swap agreements until maturity. Since the inception of the international equity investment program, over \$13.8 million of gains on international equity exposure and excess interest received have been realized. The unrealized gain of \$9.8 million at September 30, 1999, reflects the increase in international stock indices and changes in currency exchange rates.

### **Notes to General Purpose Financial Statements**

The respective September 30, 1999 and 1998 values are as follows:

	Notional Value	<b>Current Value</b>
9/30/99 (dollars in millions)	\$50.83	\$61.00
9/30/98 (dollars in millions)	40.62	39.82

In September, 1999, futures contracts on the S & P 500 and S & P MidCap indices were purchased as part of the allocation of funds to the Index Funds as the stock markets corrected. These transactions resulted in the purchase of \$1.9 million of notional exposure to the indices, the designation of short term funds of an equal amount held in combination with the contracts and the placement and maintenance of Treasury bonds as collateral for the futures transactions. A very small gain on the combined synthetic equity position was recognized on September 30. Subsequently, the synthetic equity positions were increased by approximately \$2.6 million in October, 1999, and dedicated commercial paper was purchased to replace short term cash fund balances held in combination with the futures contracts.

### Investments Exceeding 5% of Plan Net Assets

The System did not hold an individual investment (other than US Government securities) that exceeded 5% of net assets available for benefits at September 30, 1999 or 1998.

### Securities Lending

State statutes do not prohibit the System from participating in securities lending transactions, and the System has, via a Securities Lending Authorization Agreement, authorized the agent bank to lend its securities to broker-dealers and banks pursuant to a form of loan agreement.

During the fiscal year, the agent bank lent, at the direction of the System, the System's securities and received cash (United States and foreign currency), securities issued or guaranteed by the United States government, sovereign debt rated A or better, convertible bonds, and irrevocable bank letters of credit issued by a person other than the borrower or an affiliate of the borrower as collateral. The agent bank did not have the ability to pledge or sell collateral securities delivered absent a borrower default. Borrowers were required to deliver collateral for each loan equal to: (i) at least 102% of the market value of the loaned securities in the case of loaned securities denominated in United States dollars or whose primary trading market was located in the United states or sovereign debt issued by foreign governments or (ii) 105% of the market value of the loaned securities in the case of loaned securities not denominated in United States dollars or whose primary trading market was not located in the United States.

The System did not impose any restrictions during the fiscal year on the amount of the loans that the agent bank made on its behalf. There were no failures by any borrowers to return loaned securities or pay distributions thereon during the fiscal year. Moreover, there were no losses during the fiscal year resulting from a default of the borrowers or the agent bank.

During the fiscal year, the System and the borrowers maintained the right to terminate all securities lending transactions on demand. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax-exempt plan lenders, in a collective investment pool. As of September 30, 1999, such investment pool had an average duration of 64 days and an average weighted maturity of 489 days. Because the loans were terminable at will, their duration did not generally match the duration of the investments made with cash collateral. On September 30, 1999, the System had no credit risk exposure to borrowers. The collateral held and the market value of securities on loan for the System as of September 30, 1999, were \$32,517,072 and \$31,783,040 respectively. Gross income from security lending for the fiscal year was \$1,574,308. Expenses associated with this income amounted to \$1,454,763 for the borrower's rebate and \$29,863 for fees paid to the agent.

### **Notes to General Purpose Financial Statements**

### Categories of Investment Risk

Investments made by the fund, including repurchase agreements and information concerning reverse repurchase agreements, are summarized below. The investments that are represented by specific identifiable investment securities are classified as to credit risk in three categories.

Category 1 includes investments that are insured, registered, or held by the System or its agent in the System's name. Category 3 includes uninsured and unregistered investments that are held by the counterparty, its trust department, or agent, but not in the System's name.

At September 30, 1999, all investments of the pension trust fund were classified as Category 1, and Category 3 except for certain investments that were not categorized. The following table summarizes the investments:

Category 1		1999		1998
Prime Commercial Paper	\$	21,912,164	\$	35,497,888
Short Term Note		17,453,240		12,585,899
Government Securities		129,959,750		103,146,577
Corporate Bonds & Notes		81,353,412		99,127,024
Preferred Stock		22		25,283
Equities		554,750,003		464,167,265
Real Estate		6,799,383		7,205,128
Alternative Investments		4,205,820		3,214,865
Derivatives (International)		60,998,017	_	39,823,276
Total Category 1	\$	877,431,811	\$	764,793,205
Category 3	Φ	<i>577</i> , 500	ф	0
Government Securities	\$	577,500	\$	0
<b>Total Category 3</b>	\$	577,500	\$	0
Non-Categorized				
Private Placements	\$	8,599,308	\$	10,179,805
Mortgages		359,135		1,861,461
Real Estate		75,296,651		71,764,955
Alternative Investments		105,471,229		83,105,143
Cash Collateral		28,507,356		40,345,176
Securities on Loan:				
Government Securities		19,696,447		21,793,119
Corporate Bonds & Notes		611,896		2,004,140
Equities		7,555,941	_	14,981,269
Total Non-Categorized	\$	246,097,963	\$	246,035,068
Grand Total	\$	1,124,107,274	\$	1,010,828,273

### Notes to General Purpose Financial Statements

In Category 1, the real estate investments are all publicly traded real estate investment trusts. Non-Categorized real estate consists of investments in real estate through various legal entities.

In Category 1, the alternative investments are probably traded stocks and bonds. Non-Categorized alternative investments consist of limited partnership and non-publicly traded stocks and bonds.

### NOTE 5 - COMMITMENTS AND CONTINGENCIES

Under the Administrative Procedures Act, members may appeal a decision by the Board. Once the administrative procedure has been exhausted, the decision may be appealed in Michigan's court system. Various cases that have exhausted the administrative procedures have been appealed in the court system. These cases are in the normal course of business and the System does not anticipate any material loss as a result of the contingent liabilities.

### **Required Supplementary Information**

### **Schedule of Funding Progress**

Expressing the net assets available for benefits as a percentage of the actuarial accrued liability provides one indication of the System's funding status. Analysis of this percentage over time indicates whether the System is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the system. Trends in unfunded actuarial accrued liability and annual covered payroll are both affected by inflation. Expressing the unfunded or overfunded actuarial accrued liability as a percentage of annual covered payroll approximately adjusts for the effects of inflation and aids analysis of progress made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the system.

### **Retirement Benefits**

Valuation Date Sept 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability <sup>3</sup> (AAL) Entry Age (b)	Unfunded (Overfunded) Accrued Liability (UAAL) (b-a)	Funded Ratio AAL (a/b)	Covered Payroll <sup>(2)</sup> (c)	UAAL as a % of Covered Payroll ((b-a)/c)
1990	442,932,818	506,320,250	63,387,432	87.5	88,885,729	71.3
$1990^{1}$	442,932,818	541,446,390	98,513,572	81.8	88,885,729	110.8
1991	468,303,512	595,180,034	126,876,522	78.7	91,626,979	138.5
1992	488,711,130	632,040,727	143,329,597	77.3	89,899,102	159.4
19921	488,711,130	644,370,241	155,659,111	75.8	89,899,102	173.1
1993	526,192,904	680,511,499	154,318,595	77.3	86,791,793	177.8
1993 <sup>2</sup>	530,936,296	680,511,499	149,575,203	78.0	86,791,793	172.3
1994	566,541,199	709,298,262	142,757,063	79.9	88,623,068	161.1
19944	566,541,199	711,840,905	145,299,706	79.6	88,623,068	164.0
1995	622,625,951	798,820,493	176,194,542	77.9	104,500,048	168.6
1996	697,922,641	823,461,255	125,538,614	84.8	106,826,290	117.5
1997	787,239,852	880,325,872	93,086,020	89.4	110,085,690	84.6
$1997^{2}$	928,714,323	880,325,872	(48,388,451)	105.5	110,085,960	(44.0)
19975	928,714,323	876,759,081	(51,955,242)	105.9	110,085,960	(47.2)
1998	974,364,628	943,724,818	(30,639,810)	103.2	108,183,040	(28.3)
19984	974,364,628	962,468,406	(11,896,222)	101.2	108,183,040	(11.0)
1999	1,036,840,136	1,006,528,278	(30,311,858)	103.0	116,910,216	(25.9)

Benefits amended.

<sup>&</sup>lt;sup>2</sup> Change in asset valuation method.

Based on entry age normal actuarial method.

<sup>&</sup>lt;sup>4</sup> Assumption change.

<sup>5</sup> Change in inflation.

# **Required Supplementary Information** (Continued)

### **Schedule of Employer Contributions**

Fis cal Year	Annual Required	Astrol	Do uo outo co
Ending	Contribution	Actual 4	Percentage
<b>Sept. 30</b>	(ARC)	Contributions	<u>Contributed</u>
1990	18,214,516	17,103,431	93.9 %
1991	23,045,761	22,154,215	96.1
1992	23,277,902	20,555,646	88.3
1993	23,909,930	22,997,155	96.2
1994	23,768,031	23,360,943	98.3
1995	24,353,043	-	-
1995	27,916,677	25,047,023	89.7
1996	35,149,438	35,994,833	102.4
1997	30,821,696	35,142,572	114.0
1998	29,833,759	-	-
1998	23,491,414	-	-
1998 <sup>2</sup>	20,691,337	20,003,807	96.7
1999	22,737,627	-	-
1999	24,855,231	21,609,520	86.9

 $<sup>^{(1)}</sup>$  After Changes in actuarial as sumptions or method

<sup>(2)</sup> After change in inflation

After changes in benefit provision

Excluding contributions for health insurance premiums

### **Notes to Required Supplemental Information**

### **NOTE A - DESCRIPTION**

Ten year historical trend information designed to provide information about the System's progress made in accumulating sufficient assets to pay benefits when due is presented in the preceding schedules. Other ten year historical trend information related to the pension plan is presented in the Statistical and Actuarial Sections of the report. This information is presented to enable the reader to assess the progress made by the System in accumulating sufficient assets to pay pension benefits as they become due.

The comparability of trend information is affected by changes in actuarial assumptions, benefit provisions, actuarial funding methods, accounting policies, and other changes. Those changes usually affect trends in contribution requirements and in ratios that use the pension benefit obligation as a factor.

The Schedule of Funding Progress and Schedule of Employer Contributions are reported as historical trend information. The Schedule of Funding Progress is presented to measure the progress being made to accumulate sufficient assets to pay benefits when due. The Schedule of Employer Contributions is presented to show the responsibility of the Employer in meeting the actuarial requirements to maintain the System on a sound financial basis.

### NOTE B - SUMMARY OF ACTUARIAL ASSUMPTIONS

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows.

Valuation Date
Actuarial Cost Method
Amortization Method

Remaining Amortization Period Asset Valuation Method

**Actuarial Assumptions:** 

Investment Rate of Return Projected Salary Increases Includes Inflation at Cost-of-Living Adjustments 09/30/99 Entry Age Normal Level Percent Closed

37 Years 5-Year Smoothed Market

> 8% 3.7% - 84.0% 4%

2% annual non-compounded with maximum annual increase of \$500

# **Required Supplementary Information** (Continued)

### **YEAR 2000**

In October 1998, the Governmental Accounting Standards Board (GASB) issued Technical Bulletin 98-1, entitled *Disclosures about Year 2000 Issues*. The provisions of the GASB technical bulletin, as amended by Technical Bulletin 99-1, require the System to make disclosures about its readiness in addressing year 2000 issues for its computer systems and other electronic equipment.

To address the year 2000 issues, the State established the Year 2000 Project Office within the Department of Management and Budget (DMB). The Year 2000 Project Office's mission is to lead, support, and facilitate achievement of year 2000 compliance throughout the state's executive branch to ensure uninterrupted service to Michigan's citizens. The Year 2000 Project Office is monitoring year 2000 compliance efforts at the various agencies and is providing assistance and assigning resources to accelerate compliance for all mission critical systems and equipment. Additional disclosure regarding the status of statewide systems year 2000 compliance efforts upon which Michigan State Police Retirement System is dependent can be found in the State of Michigan's Comprehensive Annual Financial Report.

The System, in conjunction with the Year 2000 Project Office, DMB, is subjecting those systems and equipment to the following stages of work to address year 2000 issues:

Awareness stage — Establishing a budget and project plan for dealing with the year 2000 issue.

Assessment stage — Identifying the systems and components for year 2000 compliance.

Remediation stage — Making changes to systems and equipment.

Validation/testing stage — Validating and testing the changes that were made during the remediation stage.

The System has identified the computer systems and electronic equipment that are critical to its operations, and the following is a summary of progress towards achieving year 2000 compliance:

### Internal Systems:

Common Pension Payroll -- the State Police Retirement System has completed the assessment, remediation, validation and testing stages of these systems.

### **External Factors:**

There can be no assurance that organizations and governmental agencies with which the System interacts, including banks, vendors, customers, state and federal governments will be year 2000 compliant. With regard to these external organizations, the System obtained assurances that their systems will be ready for the year 2000. If issues are identified, action plans will be instituted as necessary. However, even if the systems of both are compliant in a timely manner, problems could arise with communications between systems if compliance is achieved through inconsistent approaches or methodologies.

Because of the unprecedented nature of the year 2000 issue, its effects and the success of related remediation efforts will not be fully determinable until the year 2000 and thereafter. Management believes that it has instituted a plan to minimize the impact that the year 2000 issue may have on critical operations.

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# **Supporting Schedules**

### Comparative Summary Schedule of Pension Plan Administrative Expenses for the Years Ended September 30, 1999 and 1998

	1999	1998
Personnel Service:		
Staff salaries	\$ 53,745	\$ 37,644
Retirement and social security	9,338	7,536
Other fringe benefits	7,483	5,547
Total	70,566	50,727
Professional Services:		
Actuarial	19,294	60,620
Attorney General	7,553	10,368
Audit	26,871	23,387
Consulting	973	200
Medical	733	6,298
Total	55,424	100,873
Building and Equipment:		
Building Rentals	4,845	3,878
Equipment Purchase, Maintenance, and Rentals	2,758	2,776
Total	7,603	6,654
Miscellaneous:		
Travel and Board Meetings	925	755
Office Supplies	1,384	2,535
Postage, Telephone and Other	134,630	25,859
Printing	4,247	1,278
Technological Support	48,218	36,646
Total	189,404_	67,073
<b>Total Administrative Expenses</b>	\$ 322,997	\$ 225,327

# **Supporting Schedules (continued)**

### **Schedule of Investment Expenses**

	<u>1999</u>	1998
Securities Lending Expense	\$1,484,626	\$1,701,125
Real Estate Operating Expense	122,135	65,891
Other Investment Expenses	1,036,909	668,755
<b>Total Investment Expenses</b>	\$2,643,670	\$2,435,771

### **Schedule of Payments to Consultants**

		<u>1998</u>
Independent Auditors Attorney General Actuary	\$ 26,871 7,553 19,294	\$ 23,387 10,368 60,620
<b>Total Payment to Consultants</b>	\$ 53,718	\$ 94,375

Supporting Schedules (continued)

Detail of Changes in Plan Net Assets (Pension and Postemployment Healthcare Benefits)

	Fiscal Year Ending September 30, 1999					
	Employee Contributions	Employer's Contributions	Retired Benefits Payments	Undistri buted Investment Income	Health Related Benefits	Total
Additions:						
Members contributions						
Other	\$ 1,673				\$ 992,839	\$ 994,512
Military	6,006					6,006
Employer contributions		\$ 21,609,520			12,838,366	34,447,886
Investment income:						
Investment income				\$ 157,966,090		157,966,090
Securitites lending income				1,574,308		1,574,308
Less investment expenses				(100.105)		(100.105)
Real estate operating expenses				(122,135)		(122,135)
Securities lending expenses				(1,484,626)		(1,484,626)
Other investment expenses				(1,036,909)		(1,036,909)
Interest Income Mscellaneous income						
iviscenare ous income						
Total additions	7,679	21,609,520		156,896,728	13,831,205	192,345,132
Deductions:						
Benefits paid to plan members						
and beneficiaries:						
Retirement benefits			\$ 52,486,589			52,486,589
Health benefits			Ψ 32,1ω,309		15,092,102	15,092,102
Dent al/vision benefits					1,114,442	1,114,442
Refunds of member contributions	4,694				, ,	4,694
Administrative expenses				322,997		322,997
Total deductions	4,694		52,486,589	322,997	16,206,544	69,020,824
N/A (D)	2.005	21 (0) 520	( <b>5</b> ) 40 6 <b>5</b> 00	15 4 570 5701	(2.255.220)	122 22 4 200
Net Increase (Decrease)	2,985	21,609,520	(52,486,589)	156,573,731	(2,375,339)	123,324,308
Other Changes in Net Assets:						
Interest allocation	18,518	19,668,561	41,743,051	(61,430,130)		
Transfers upon retirements Transfers of employer shares	(171,681)	(71,381,333)	171,681 71,381,333			
Total other changes in net assets	(153,163)	(51,712,772)	113,296,065	(61,430,130)		
Net Increase (Decrease)						
After Other Changes	(150,178)	(30,103,252)	60,809,476	95,143,601	(2,375,339)	123,324,308
Net Assets Held in Trust for Pension						
and Healthcare Benefits:						
Beginning of Year	614,048	245,857,014	521,788,132	208,794,549	4,459,665	981,513,408
End of Year	\$ 463,870	\$ 215,753,762	\$ 582,597,608	\$ 303,938,150	\$ 2,084,326	\$1,104,837,716

# **Supporting Schedules (continued)**

**Detail of Changes in Plan Net Assets (Pension and Postemployment Healthcare Benefits)** 

	Fiscal Year Finding September 30, 1998					
			Retired	Undistri buted	Health	
	Employee	Employer's	Benefits	Investment	Related	
	<u>Contributions</u>	Contributions	<u>Payments</u>	Income	<b>Benefits</b>	<u>Total</u>
Additions:						
Members contributions:						
Other					\$ 884,009	\$ 884,009
Military	\$ 38,727				Ψ 001,00	38,727
Employer contributions	,	\$ 20,003,807			13,119,577	33,123,384
Investment income:						
Investment income				\$ 76,404,676		76,404,676
Securitites lending income				1,757,372		1,757,372
Less investment expenses						
Real estate operating expenses				(65,891)		(65,891)
Securities lending expenses				(1,701,125)		(1,701,125)
Other investment expenses				(668,755)		(668,755)
Interest income						
Miscellaneous income						
Total additions	38,727	20,003,807		75,726,277	14,003,586	109,772,397
Deductions:						
Benefits paid to plan members						
and beneficiaries						
Retirement benefits			\$ 48,227,332			48,227,332
Health benefits					12,786,623	12,786,623
Dental/vision benefits					1,069,480	1,069,480
Administrative expenses				225,327		225,327
Total deductions			48,227,332	225,327	13,856103	62,308,762
Net Increase (Decrease)	38,727	20,003,807	(48227,332)	75,500,950	147,483	47,463,635
Other Changes in Net Assets: Interest allocation	23,446	16,729,867	42,201,480	(58,954,793)		
Transfers upon retirements	(295,484)	10,722,007	295,484	(30,754,775)		
Transfers of employer shares	(225, 101)		273,404			
Trainer of unprojet sine to						
Total other changes in net assets	(272,038)	16,729,867	42,496,964	(58954,793)		
Net Increase (Decrease)						
After Other Changes	(233,311)	36,733,674	(5,730,368)	16,546,157	147,483	47,463,635
Net Assets Held in Trust for Pension						
and Healthcare Benefits:						
Beginning of Year	847,359	209,123,340	527,518,500	192,248,392	4,312,182	934,049,773
End of Year	\$ 614,048	\$ 245,857,014	\$ 521,788,132	\$ 208,794,549	\$ 4,459,665	\$ 981,513,408

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# **INVESTMENT SECTION**

Report on Investment Activity
Asset Allocation
Investment Results
List of Largest Stock Holdings
List of Largest Bond Holdings
Schedule of Investment Fees
Schedule of Commissions
Investment Summary

### **Report on Investment Activity**

### INTRODUCTION

The State Treasurer reports quarterly the investment activity to the Investment Advisory Committee which reviews the investments, goals and objectives of the retirement funds and may submit recommendations regarding them to the State Treasurer. The Investment Advisory Committee may also, by a majority vote, direct the State Treasurer to dispose of any holdings which, in the committee's judgement, are not suitable for the funds involved, and may, by unanimous vote, direct the State Treasurer to make specific investments.

The Investment Advisory Committee was created by Act 380 of the Public Acts of 1965. The three public members of the five-member committee are appointed by the Governor with the advice and consent of the Senate for three-year terms. The Director of the Department of Consumer and Industry Services and the Director of the Department of Management and Budget are ex-officio members. The members of the committee are as follows: Mr. Samuel Valenti III (public member), Farris W. Womack (public member), Jerry L. Tubergen, CPA (public member), Kathleen M. Wilbur (ex-officio member), and Janet E. Phipps (ex-officio member). The public members serve without pay, but are paid actual and necessary travel and other expenses.

### INVESTMENT POLICY & GOAL

The primary function of the System is to provide retirement, survivor and disability benefits to its members. The State Treasurer is the sole investment fiduciary and custodian of the System's investments pursuant to state law. The primary investment objective is to maximize the rate of return on the total investment portfolio, consistent with a high degree of prudence and sufficient diversity to eliminate inordinate risks and to meet the actuarial assumption for the investment rate of return, at a reasonable cost achieved by cultivating a motivated team of dedicated professionals. The goals of the fund are:

- 1. To outperform the actuarial assumption over the long-term.
- 2. To produce competitive results at a low cost.
- 3. To achieve a delicate balance between risk and return.
- 4. To perform in the top half of the Capital Resource Advisors public plan universe.
- 5. To exceed individual asset class benchmarks over the long-term.

The strategy for achieving these goals is carried out by investing the assets of the system according to a five-year asset allocation model which currently has seven different asset classes which provides for a well diversified portfolio.

# Asset Allocation (Excludes Collateral on Loaned Securities)

e 0/20/00

<b>Investment Category</b>	As of 9/30/99 Actual %	Target %
Mortgages	0.0%	0.0%
International Equities Passive	5.6%	12.5%
Real Estate	7.5%	8.5%
Alternative Investments	10.0%	12.5%
Short Term Investments	4.0%	2.5%
Fixed Income	21.9%	20.0%
Domestic Equity	51.0%	44.0%
TOTAL	100.0%	100.0%

## **Report on Investment Activity**

### STATE LAW

Pursuant to State Law (Section 91 of Act No. 380 of the Public Acts of 1965, as amended), the State Treasurer, State of Michigan, is the investment fiduciary for the following four State sponsored retirement systems: Michigan Public School Employees' Retirement System; Michigan State Employees' Retirement System; Michigan State Police Retirement System; and Michigan Judges' Retirement System.

Act No. 314 of the Public Act of 1965, as amended, authorizes the investment of assets of public employee retirement systems or plans created and established by the state or any political subdivision.

### PROXY VOTING POLICY

The System's Proxy Voting Policy sets forth directives on the following issues: Board of Directors, Corporate Governance, Social Issues, corporate restructurings and defenses. All proxies are reviewed and voted in accordance with the above mentioned items.

### INVESTMENT RESULTS

### Total Portfolio Result

For the fiscal year ended September 30, 1999, the total portfolio returned 15.5%, compared to the median of 15.4% of state plans, including the System, as compiled by Capital Resource Advisors. For the three-year period, the fund returned 15.6%, and for the five-year period the fund returned 15.8%. This compares with the median fund return of 14.9% for the three-year period and 15.5% for the five-year period.

During the fiscal year ending September 30, 1999, the nation's economy was characterized by full employment, low inflation, rising interest rates, and moderate economic growth. The equity markets experienced exceptional returns over the time period as the S&P 500 increased 27.8% with the Dow Jones Industrial Average ahead 34.1%. The technology portion of the S&P 500 paced the market with a 73.3% increase followed by the capital goods sector which increased 42.0% and the utility sector which appreciated 24.0%. The Federal Reserve increased the Federal Funds rate by 1/4% to 5.0% in June and boosted rates an additional 1/4% to 5.25% in August. As a result of these tightening moves, the yield on the 30 year Treasury increased from 5.0% at September 30, 1998 to 6.0% at September 30, 1999. Because of the rise in interest rates, Lehman Brothers Government/Corporate Index experienced a negative return of 1.6% for the year ending September 30, 1999.

The returns were calculated using a time weighted rate of return in accordance with standards of the Association for Investment Management and Research (AIMR), unless a modification is described in the discussion of the return.

The System is well diversified among asset classes. As of September 30, 1999, the portfolio consisted of 51.0% domestic equities, 21.9% fixed income, 10.0% alternative investments, 7.5% real estate, 4.0% short-term investments, and 5.6% international equities.

### Domestic Stocks - Active

The objective of actively-managed domestic stock investments is long-term capital appreciation by investing in publicly-traded stocks of primarily US-based companies.

Equity markets again experienced considerable volatility in fiscal year 1999 as economic conditions mirrored those of fiscal year 1998. The Federal Reserve moved to alleviate global economic difficulties by lowering rates three times in the quarter ending December 1998, sending equity markets rebounding from their earlier declines. Corporate earnings growth accelerated throughout the year and major foreign economies strengthened, sending equity markets to record highs by July. Later in the year, fears of inflation arose as commodity prices recovered from the previous year's lows and the US unemployment

### **Report on Investment Activity**

rate continued to inch lower. Combined with a strong economy, this caused the Federal Reserve to reverse two of its previous actions and equity markets to retreat from their record highs.

The actively-managed domestic stock portfolio achieved a total rate of return of 23.4% for the fiscal year, compared with 27.8% for the S&P 500 Index and 34.1% for the Dow Jones Industrial Average. This compared with a median return of 24.2% for state plans, including the System, as compiled by Capital Resource Advisors. The markets were led by a 73.3% gain for technology stocks, followed by 42.0% for capital goods and 24.0% for utilities. Three-year and five-year annualized returns for the actively-managed domestic stock portfolio were 21.1% and 21.2%, respectively. This compared with 25.1% and 25.0% for the S&P 500 and 21.4% and 21.9% for the median of state plans.

At the close of fiscal year 1999, actively-managed domestic stocks represented 37.4% of total System investments, compared with 37.1% at the end of fiscal year 1998, and 36.7% at the close of fiscal year 1997.

### Domestic Stocks - Passive

The objective of the enhanced S&P 500 and S&P MidCap Index Funds is to closely match the return performance of their benchmarks, use low risk strategies to offset transaction costs and add to performance when possible. The S&P 500 Index Fund return for the fiscal year was 27.9% versus the benchmark's 27.8%. The S&P MidCap Index Fund return for the fiscal year was 26.8% versus its benchmark's 25.5%. The enhancements to the returns were the result of strategic allocations of additional funds to passive equity investments during market corrections and the opportunistic use of derivative programs. During fiscal year 1999, \$10.1 million was added to these Index Funds. At the end of the fiscal year, the passive domestic stock portfolio represented 13.8% of total assets, the S&P 500 Index Fund accounting for 12.8% and the S&P MidCap Index Fund 0.9%. Totals include both index fund portfolios of stocks and related synthetic equity positions, a combination of futures contracts and fixed income securities. Indexed stock portfolios represented 11.9% of total investment assets at the end of the prior fiscal year.

### International Equities - Passive

The objective of the passive international equity portfolio is to match the return performance of the Net Salomon Broad Market Index (BMI) Europe and Pacific Composite (EPAC) adjusted for net dividends. Fifty percent of the benchmark is hedged to the U.S. Dollar and the other half is affected by foreign currency exchange rate changes. The total passive international return of 31.7% in the fiscal year compared favorably with the Net Salomon BMI-EPAC return of 31.4%. The passive international return of 14.0% for three years compared well with the benchmark's return of 12.1% over the same period.

Core passive exposure to international equity returns is achieved by investing in a combination of fixed income notes and equity swap agreements on foreign stock indices in developed markets. Interest on the dedicated notes is exchanged for international stock index returns, and the notional amount of the swap agreements is invested in the approximate proportions of the Net Salomon Broad Market Index (BMI) Europe and Pacific Composite (EPAC) country weightings in those country indices. Use of the swap agreements for a core position began in 1993, and an ADR and index-related security portfolio was added in June of 1999 to increase management flexibility. During fiscal year 1999, \$10.7 million of exposure was added, raising passive international investments to 5.6% of total investment assets.

The combination of fixed income LIBOR notes and equity swap agreements was valued at \$61.0 million on September 30, 1999. That valuation included a net unrealized gain of \$9.9 million on equity index exposures and an unrealized loss of \$57 thousand on LIBOR note investments held. During fiscal year 1999, \$1.7 million of gains on equity exposures were realized, and \$457 thousand of interest in excess of obligations on completed swaps was also recognized. At the end of the fiscal year, total realized gains and net interest received in excess of counterparty obligations on completed agreements reached a record \$13.8 million since the program began.

### **Report on Investment Activity**

### Fixed Income

For the fiscal year September 30, 1999, the fixed income portfolio returned a negative 0.3% compared to the median of negative 0.2% for the state plans including the System as compiled by Capital Resource Advisors evaluations. The fixed income portfolio returned 6.6% for the three year period and 8.1% for the five year period. These returns compare with the median portfolio returns of 6.9% for the three year and 8.2% for the five year periods.

During the year, rates increased steadily and spreads narrowed. Fixed income markets rewarded shorter duration portfolios. The System's fixed income portfolio was shorter than the Lehman Brothers Government Index. Consequently the fund outperformed the Lehman index for the one year period, a negative 0.3% versus negative 1.6% and underperformed for the three year period, 6.6% compared to 6.8% and outperformed the index for the five year period 8.1% versus 7.8%. Relative to the Salomon Smith Barney Broad Investment Grade Bond Index, the System matched the one year time horizon, negative 0.3% to negative 0.3%, was close in the three year period 6.6% to 6.8% and was ahead in the five year period 8.1% to 7.9%.

Fixed income represented 22% of the total portfolio compared with 24% last year. The corporate sector represented 37% of fixed income securities with government securities accounting for 63%. Last year corporate securities were 47% of the total with government securities representing 53%. The increased level of governments was the result of quality spreads narrowing.

### Real Estate Equity

As of the year ending September 30, 1999, 7.5% of the total investment portfolio was invested in equity real estate. This compares to 8.1% and 6.4% for the fiscal years ending September 30, 1998 and 1997, respectively. The target asset allocation for equity real estate investments is 8.5%.

The one-year, three-year and five-year total equity real estate net returns for the fiscal year ending September 30, 1999, were 12.9%, 13.0% and 11.5%, respectively, as compiled by Capital Resource Advisors. This compares to the National Council of Real Estate Investment Fiduciaries (NCREIF) Property Index returns of 11.9%, 13.7% and 11.6% relating to the same periods. As of September 30, 1999, the NCREIF portfolio of properties is heavily weighted in the office sector at 43% versus the System's portfolio at 25%. The historical volatility of the office sector returns makes it a more risky property type. The NCREIF Index returns are quoted on an unleveraged basis and before deducting fees/overhead, while the System's returns quoted above are leveraged after fees/overhead.

The real estate investments are broadly diversified geographically, across the country, by type of property, and by class of property, to reduce risk. Major property types as of September 30, 1999, included: apartments 37%, retail centers, including regional malls and neighborhood/community shopping centers 30%, commercial office buildings 25% and miscellaneous other property types such as: industrial, self storage, and hotel 8%. The System, through its advisors controls, acquires, develops, redevelops, and disposes of real estate with the goal of maximizing returns while maintaining an acceptable level of risk. The properties are held in various investment vehicles: partnerships, LLCs, trusts, commingled funds, and REIT stock. These legal entities allow the System to enjoy the benefits of real estate ownership while limiting the liability associated with the asset class. In all new investments, the System retains approval rights over critical decisions in order to further mitigate risk. The properties are regularly valued by independent appraisers to establish fair market values.

### Mortgages

As of the year ending September 30, 1999, less than .5% of the portfolio was invested in direct mortgages. The asset allocation objective is to reduce mortgage holdings to 0% over time; a majority of the mortgage portfolio has been sold during the previous two years to take advantage of the favorable low interest rate environment. The one-year, three-year, and five-year total returns for the mortgage portfolio for the fiscal year ending September 30, 1999 were 3.9%, 6.7%, and 7.7%, respectively.

### **Report on Investment Activity**

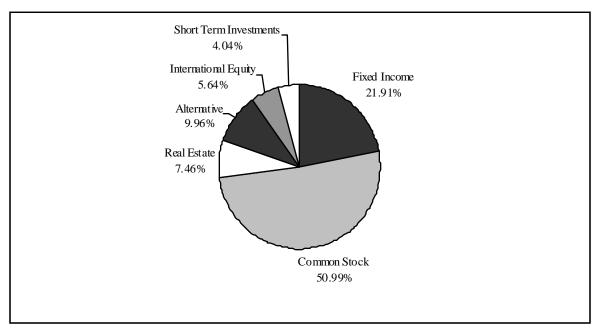
### Alternative Investments

Alternative Investments are investments in the private equity market, either directly in companies or indirectly through limited partnerships. Through September 30, 1999, approximately 92% of alternative investments were made through limited partnerships. Of the investments in limited partnerships, approximately 10% were in partnerships investing internationally. The remaining 8% were direct private equity investments and public stock distributions received from the limited partnerships. The percentage of assets in alternative investments has consistently increased from 4.8% as of September 30, 1993, to 10% as of September 30, 1999. The asset allocation for alternative investments is 10% while the long-term target asset allocation is 12.5%. The System operates within a five year range of 10%-15%.

The one-year, three-year and five-year total alternative investment returns for the fiscal year ending September 30 were 11.8%, 18.1% and 20.7%, respectively. Based on returns for quarters ending June 30 and September 30, 1999 of 6.45% and 7.10% respectively, alternative investments are experiencing returns at an annualized rate of return of 27.1%.

# **Report on Investment Activity**

# **Asset Allocation**



# **Investment Results Periods Ending September 30, 1999**

		Annualized Rate of Return				
Investment Category	Current Year	3 Years	5 Years	10 Years		
Total Portfolio	15.5 %	15.6 %	15.8 %	11.4 %		
Median	15.4	14.9	15.5	11.5		
Domestic Equities Stock - Active	23.4	21.1	21.2	13.9		
Domestic Equities Stock - Pas sive*	27.9	24.7	24.8	17.3		
Standard & Poor's (S&P 500)	27.8	25.1	25.0	16.8		
Median of State Plans (Domestic Equities - Active)	24.2	21.4	21.9	14.8		
Standard & Poor's (MidCap)	25.5	17.8	18.6	15.6		
International Equities - Passive	31.7	14.0	12.7	N/A		
Net Salo mon BMI - EPAC 50/50	31.4	12.1	10.7	N/A		
Fixed Income Bonds (U.S. Corp and Govt)	(0.3)	6.6	8.1	8.4		
Salomon Smith Barney Broad Investment Grade Bond Index	(0.3)	6.8	7.9	8.2		
Lehman Brothers Government/Corporate	(1.6)	6.8	7.8	8.1		
Median of State Plans	(0.2)	6.9	8.2	8.5		
Real Estate - Debt	3.9	6.7	7.7	7.2		
Salomon Smith Barney Broad Investment Grade Bond Index	(0.3)	6.8	7.9	8.2		
Real Estate - Equity	12.9	13.0	11.5	5.0		
NCREIF	11.9	13.7	11.6	5.6		
Alternative Investments	11.8	18.1	20.7	16.4		

<sup>\*</sup> Passive portfolio consists of a S&P 500 fund and a S&P Midcap fund. The return is a weighted average of the two funds.

# **Report on Investment Activity**

# **Largest Assets Held**

# Largest Stock Holdings (By Market Value) September 30, 1999

Rank	Shares	Stocks	Market Value
1	305,911	Microsoft Corporation	\$ 27,704,065
2	198,104	General Electric Corporation	23,487,706
3	362,700	Pfizer Incorporated	13,011,863
4	270,884	Wal-Mart Stores Incorporated	12,883,920
5	187,011	Cisco Systems Incorporated	12,821,942
6	287,731	Citigroup Incorporated	12,660,164
7	110,192	BP Amoco PLC	12,210,651
8	181,174	Warner-Lambert Company	12,025,424
9	251,719	McDonald's Corporation	10,886,847
10	128,792	Intel Corporation	9,570,856

# Largest Bond Holdings (By Market Value) September 30, 1999

Rank	Par Amount	Bonds & Notes		Market Value		
1	\$ 7,957,000	US Treasury Bonds at 9.125% Due 5-15-2009	\$	8,891,948		
2	6,352,500	US Treasury 0% Coupon Strips Due 8-15-2003		5,067,008		
3	7,393,310	US Treasury 0% Callable Principal Due 5-15-2011		4,959,802		
4	4,660,000	Ford Motor Credit Corp FRN 5.63% Due 10-09-2001		4,662,330		
5	3,696,000	Bankers Trust Corp FRN 5.59% Due 3-16-2001		3,699,474		
6	5,243,700	US Treasury 0% Coupon Strips Due 11-15-2011		3,411,551		
7	3,465,000	FHLMC Debenture 6.70% Due 7-23-2008		3,349,139		
8	2,832,619	Chemical Bank FRN 5.3545% Due 7-29-2003		2,850,390		
9	2,827,867	First Chicago Corp FRN 5.43625% Due 7-28-2003		2,822,791		
10	3,685,000	US Treasury Tiger 0% Coupon Due 8-15-2004		2,727,600		

A complete list of stock and bond holdings is available from the Michigan Department of Treasury.

### **Report on Investment Activity**

# Schedule of Investment Fees

The State Treasurer is the investment fiduciary and custodian of the retirement system's funds pursuant to state law. Outside advisors are utilized to augment the State Treasurer's internal staff in the real estate and alternative investment markets. Only 9.5% of the total investment portfolio is managed by fully discretionary outside advisors. Outside advisors' fees are netted against the partnership or trust fund income. The Michigan Department of Treasury's cost of operations applicable to the retirement system for the fiscal year amounted to \$177.4 thousand or less than two basis points (.02%) of the market value of the portfolio.

State law created an Investment Advisory Committee comprised of the directors of the Department of Consumer and Industry Services and Management and Budget, or their duly authorized representatives, and three public members appointed by the Governor with the advice and consent of the Senate. The public members serve without pay, but are paid actual and necessary travel and other expenses. The committee meets quarterly to review investments, goals and objectives and may submit recommendations to the State Treasurer. The committee may also, by a majority vote, direct the State Treasurer to dispose of any holding which in the committee's judgement is not suitable for the fund involved, and may be unanimous vote direct the State Treasurer to make specific investments.

### Schedule of Investment Fees

### Investment Managers' Fees:

	M	asset under Ianagement n thousands)	Fees (in thousands)		Bas is Points*	
State Treasurer	\$	996,089.8	\$	177.4	1.8	
Outs ide Ad vis ors · Alternative		100,961.8		854.6	84.6	
Real Estate		3,668.2		-	-	
Total	\$	1,100,719.8				

### Other Investment Services Fees:

	1	Ass ets in		Fe es		
		Cus tody**	(in thousands			
			,			
Custody & Research Fees	\$	859,815.9	\$	5.1		
Se cu rity Lending Fees		31,783.0		1,484.6		

<sup>\*</sup> Outside Advisors Fees are netted against the income of the partnership and trust income. The partnership agreements define the management fees, which range from 150 to 250 basis points of the committed capital, in most cases the fees are netted against income. For Real Estate the asset management fees normally range from 25 to 90 basis points and are netted against current year's income.

<sup>\*\*</sup> Other investment service fees are charged on assets managed by the State Treasurer at its custodial bank in the amount of \$859,815.9 thousand; \$31,783.0 thousand of the assets were on loan at fiscal year end.

# **Report on Investment Activity**

# **Schedule of Commissions**

	Fis cal Year Ended 9-30-99					
	Con	nmissions	Number of	Average Commission		
	1	Paid <sup>(1)</sup>	Shares Traded	Rate Per Share		
vestment Brokerage Firms:	_	_				
Paine Webber, Inc.	\$	16,834	282,940	0.06		
Merrill Lynch & Co.		14,647	253,554	0.06		
Goldman, Sachs & Co.		12,870	225,823	0.06		
Morg an Stanley Dean Witter & Co.		10,839	180,657	0.06		
CS First Boston Corporation		10,801	181,488	0.06		
Salomon Smith Barney, Inc.		9,573	166,926	0.06		
Donalds on, Lufkin & Jenrette Securities Corp.		8,673	145,429	0.06		
Schroder & Co., Inc.		7,439	123,999	0.06		
Pru dential Securities, Inc.		7,149	121,289	0.06		
Lehman Brothers, Inc.		6,735	115,740	0.06		
Bridge Trading Company		6,624	110,402	0.06		
Sanford C. Bernstein & Co.		6,608	110,132	0.06		
Bear, Stearns & Co.		5,182	87,856	0.06		
Capital Institutional Services, Inc.		5,180	86,327	0.06		
Oppenheimer & Company		5,060	84,419	0.06		
J.P. Morgan Securities, Inc.		4,889	83,428	0.06		
SG Cowen & Company		4,873	82,255	0.06		
Standard & Poor's Securities, Inc.		4,205	70,077	0.06		
Charles Schwab & Co., Inc.		3,373	56,211	0.06		
Everen Securities, Inc.		2,492	41,535	0.06		
Deutsche Bank Securities		1,830	30,507	0.06		
Bank of America Securities		1,607	28,188	0.06		
Wilshire Associates		1,464	24,393	0.06		
BancBoston Robertson Stephens		863	23,277	0.04		
The Citation Group		804	13,398	0.06		
Subtotal (25 highest)	\$	160,614	2,730,250	0.06		
All Other Brokerage Firms		10,157	178,170	0.06		
Total	_\$	170,771	2,908,420	0.06		

These amounts are included in purchase and sale prices of investments.

The average commission rate per share for the top 25 brokerage firms.

The average commiss ion rate per share for all other brokerage firms, excluding the top 25 brokerage firms.

The average commiss ion rate per share for all brokerage firms.

# **Investment Summary**

	Fiscal Year Ended 9-30-99				Fiscal Year Ended 9-30-98			
	Market Value (a)	Percent of Total Market Value	Investment & Interest Income (c)	Percent of Investment & Interest Income	Market Value (a)	Percent of Total Market Value	Investment & Interest Income (c)	Percent of Investment & Interest Income
Fixed Income:								
Government Bonds	\$ 150,233,697	13.65%	\$ (278,183)	(0.18%)	\$ 124,939,696	12.78%	\$ 12,950,324	16.95%
Corporate Bonds &								
Preferred Stocks	90,564,638	8.23%	776,249	0.49%	111,336,252	11.39%	9,837,186	12.88%
Mort ga ges	359,135	0.03%	100,522	0.06%	1,861,461	0.19%	279,838	0.37%
Total Fixed Income	241,157,470	21.91%	598,588	0.37%	238,137,409	24.36%	23,067,348	30.20%
Common Stock	561,228,516	50.99%	115,866,103	73.35%	479,148,534	49.00%	26,988,930	35.32%
Real Estate	82,096,034	7.46%	9,360,111	5.93%	78,970,083	8.08%	7,269,133	9.51%
Alternative	109,677,049	9.96%	14,804,560	9.37%	86,320,008	8.83%	16,517,486	21.62%
International Equities - Passive	62,075,445	5.64%	14,389,895	9.11%	39,823,276	4.07%	(2,971,510)	(3.89%)
Short Term Investments <sup>(b)</sup>	44,485,265	4.04%	2,946,833	1.87%	55,325,580	5.66%	5,533,289	7.24%
Total	\$1,100,719,779	100.00%	\$ 157,966,090	100.00%	\$ 977,724,890	100.00%	\$ 76,404,676	100.00%

<sup>(</sup>a) Short Term Investments are at cost, which approximates market.

<sup>(</sup>b) Includes equity in the State Treasurer's Common Cash Fund. Market Values for short term excludes the amounts payable and receivable for sales and purchases of securities with a settlement date after September 30 for each fiscal year. The amount also excludes \$28,507,356 and \$40,345,176 in cash collateral for security lending for fiscal year 1999 and 1998 respectively.

<sup>(</sup>c) Total Investment & Income excludes net security lending income of \$89,682 and \$56,247 for fiscal year 1999 and 1998 respectively.

# ACTUARIAL SECTION

# **ACTUARIAL SECTION**

Actuary's Certification Summary of Actuarial Assumptions and Methods Schedule of Active Member Valuation Data Retirant and Beneficiary Data **Prioritized Solvency Test Summary of Plan Provisions** 

# **Actuary's Certification**

### THE SEGAL COMPANY

One Park Avenue New York, New York 10016-5895 212-251-5321 FAX: 212-251-5490

January 14, 2000

Michael J. Karlin, F.S.A., M.A.A.A. Senior Vice President & Actuary

Ms. Janet E. Phipps
Director
Department of Management and Budget
and
Retirement Board
Michigan State Police Retirement System
P.O. Box 30176
Lansing, Michigan 48909

Ladies and Gentlemen:

The Michigan State Police Retirement System (MSPRS) is funded on an actuarial reserve basis. The basic financial objective of MSPRS is to establish and receive contributions that remain approximately level as a percentage of active member payroll over a long period of years.

Actuarial valuations are prepared annually to determine MSPRS's actuarial liabilities and the employer contributions required to fund the System in accordance with the actuarial reserve funding provisions of the governing State Statute. The most recent actuarial valuation as of September 30, 1999 included a total of 4,462 members of MSPRS. The actuarial value of MSPRS's assets amounted to approximately \$1,036.8 million on September 30, 1999.

The actuarial assumptions used in the 1999 valuation are the same as those used in the previous annual actuarial valuation. These assumptions produce valuation results which we consider to be reasonably indicative of the plan's underlying cost. Also, in our opinion, the actuarial assumptions and methods used for funding purposes meet the parameters for the disclosures presented in the financial section by GASB Statement No. 25.

Our actuarial valuation of MSPRS as of September 30, 1999 was performed by qualified actuaries in accordance with accepted actuarial procedures. In our opinion, the calculated contribution rate meets the fundamental objectives of State law. Based on the 1999 valuation results, it is also our opinion that the Michigan State Police Retirement Retirement System continues in sound condition, in accordance with actuarial principles of level cost financing.

Most of the information used in the supporting schedules in the Actuarial and Statistical Sections, as well as the Schedules of Funding Progress and the employer contributions shown in the Schedules of Employer Contributions in the Financial Section of this report were provided by our firm.

Sincerely,

Michael Karlin, F.S.A., M.A.A.A Senior Vice President & Actuary

Muhael Kaulin

Atlanta Boston Chicago Cleveland Denver Edmonton Hartford Houston Los Angeles Minneapolis New Orleans New York Phoenix San Francisco Seattle Toronto Washington, D.C. West Palm Beach



# ACTUARIAL SECTION

# **Summary of Actuarial Assumptions and Methods**

- 1. The investment return rate used in making the valuations was 8% per year, compounded annually. This rate of return is not the assumed real rate of return. Considering other financial assumptions, this 8% investment return rate translates to an assumed real rate of return of 4%.
- 2. The mortality table used in evaluating allowances to be paid was the 1994 Group Annuity Mortality Table, set forward one year for both men and women. Adopted 1998.
- 3. Sample probabilities of retirement with an age and service allowance are shown in Schedule I on the next page. Adopted 1998.
- 4. Sample probabilities of withdrawal from service and disability, together with individual pay increase assumptions, are shown in Schedule II on the next page.
- 5. Total active member payroll is assumed to increase 4% per year. This represents the portion of the individual pay increase assumptions attributable to inflation. In effect, this assumes no change in the number of active members.
- 6. An individual entry age actuarial cost method of valuation was used in determining age and service allowance actuarial liabilities and normal cost. Unfunded actuarial accrued liabilities, including actuarial gains and losses, are financed over a declining period of 50 years, beginning October 1, 1986.
- 7. During 1998, the Department of Management and Budget approved the use of market value of assets as of September 30, 1997 for actuarial valuation purposes. For investment gains or losses that occur after that date, a 5-year smoothing technique will be used. Specifically, the excess (shortfall) of actual investment income (including interest, dividends, realized and unrealized gains or losses) over the imputed income at the valuation interest rate is considered the gain (loss), which is spread over 5 years.
- 8. The data about persons now covered and about present assets was furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary.
- 9. The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA).

# **Summary of Actuarial Assumptions and Methods** (Continued)

SCHEDULE 1

Percent of Eligible Active Members Retiring Within Next Year

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year				
44-49	50 %				
50-57	25				
58	35				
59	50				
60	65				
61	80				
62-63	100				

SCHEDULE 2

Separation From Active Employment Before

Age & Service Retirement & Individual Pay Increase Assumptions

Sample Ages	Years Service	Percent of Active Members Withdrawing Within Next Year (Men and Women)	Percent of Active Members Becoming Disabled Within Next Year	Percent Increase In Pay During Next Year
All	0	6.50 %		
	1	4.00		
20	2 & Over	2.00	0.30 %	10.30 %
25	"	2.00	0.31	9.70
30	"	1.50	0.31	6.85
35	"	0.60	0.32	5.10
40	"	0.35	0.36	4.24
45	"	0.35	0.43	3.89
50	"		0.53	3.86
55	"		0.63	3.68
60	"		0.75	3.68

# ACTUARIAL SECTION

# **Actuarial Valuation Data**

# Schedule of Active Member Valuation Data

Valuation Date Sept. 30	Number	Reported Annual Payroll	Average Annual Pay	% Increase	Average Age	Average Service
1990	2,255	88,885,729	39,417	2.4	38.6	14.9 years
1991	2,139	91,626,979	42,836	8.7	39.2	15.4
1992	1,985	89,899,102	45,289	5.7	39.4	15.3
1993	1,885	86,791,793	46,043	1.7	39.9	15.1
1994	1,992	88,623,068	44,490	(3.4)	38.8	13.4
1995	2,181	104,500,048	47,914	7.7	37.9	13.0
1996	2,135	106,826,272	50,036	4.4	38.2	13.1
1997	2,090	110,085,960	52,673	5.3	38.2	12.9
1998	2,220	108,183,040	48,731	(7.5)	37.5	11.6
1999	2,216	116,910,216	52,757	8.3	37.0	11.5

# Retirant and Beneficiary Data Rolls End of Year

Year Ended			Average Monthly Benefit			Average Age			
<b>Sept. 30</b>	Pensioners	Widows	Children	Pensioners	Widows	Children	Pensioners	Widows	Children
1990	1,050	246	3	1,426	847	100	61.2	66.2	13.5
1991	1,142	263	3	1,510	854	100	60.8	66.6	13.4
1992	1,267	281	3	1,620	868	100	60.4	66.6	14.4
1993	1,357	282	3	1,697	879	100	60.4	66.7	15.3
1994	1,483	273	3	1,721	938	100	60.5	69.5	16.4
1995	1,548	279	4	1,770	962	100	60.8	69.6	14.8
1996	1,612	397	6	1,845	1,001	100	61.6	69.3	10.3
1997	1,703	310	5	1,963	1,192	419	62.5	70.4	10.7
1998	1,820	314	5	2,062	1,225	499	62.8	71.0	10.1
1999	1,893	334	4	2,141	1,263	499	63.1	71.5	10.8

# **Prioritized Solvency Test**

The State Police Retirement System's funding objective is to meet long term benefit promises through contributions that remain approximately level from year to year as a percent of member payroll. If the contributions to the System are level in concept and soundly executed, the System will pay all promised benefits when due -- the ultimate test of financial soundness. Testing for level contribution rates is the long-term solvency test.

A prioritized solvency test is another means of checking a system's progress under its funding program. In a short condition test, the plan's present assets (cash and investments) are compared with: (1) active member contributions on deposit; (2) the liabilities for future benefits to present retired lives; and (3) the liabilities for service already rendered by active and inactive members. In a system that has been following the discipline of level percent of payroll financing, the liabilities for active member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by present assets (except in rare circumstances). In addition, the liabilities for service already rendered by active members (liability 3) is normally partially covered by the remainder of present assets. Generally, if the System has been using level-cost financing, the funded portion of liability 3 will increase over time. Liability 3 being fully funded is not necessarily a byproduct of level percent of payroll funding methods.

The schedule below illustrates the history of the liabilities of the System and is indicative of the System's' policy of following the discipline of level percent of payroll financing.

Actuarial A	Accrued Liability	(\$ in Thousands)
(1)	(2)	(3)

Valuation Date	Active Member	Retirants and	Active and Inactive Members (Employer	Valuation	Portion of Present Value Covered by Assets							
Sept. 30	Contributions	Beneficiaries	Financed Portion)	Assets	(1)	(2)	(3)	(4)**				
1990	\$ 3,256	\$ 213,228	\$ 289,836	\$ 442,933	100 %	100 %	78.1 %	87.5 %				
1990#	3,256	213,228	324,962	442,933	100	100	69.7	81.8				
1991	2,747	251,716	340,717	468,304	100	100	62.8	78.7				
1992	2,127	301,927	340,316	488,711	100	100	54.3	75.8				
1993	2,133	330,629	347,749	526,193	100	100	55.6	77.3				
1993***	2,133	330,629	347,749	530,936	100	100	57.0	78.0				
1994	1,770	370,681	336,847	566,541	100	100	57.6	79.9				
1994*	1,770	394,292	315,779	566,541	100	100	54.0	79.6				
1995	1,497	422,960	374,363	622,626	100	100	52.9	77.9				
1996	1,183	459,985	362,293	697,923	100	100	65.3	84.8				
1997	847	516,379	363,100	787,240	100	100	74.4	89.4				
1997***	847	516,379	363,100	928,714	100	100	113.3	105.5				
1997+	847	516,379	395,533	928,714	100	100	104.0	101.7				
1998	614	593,169	349,941	974,365	100	100	108.8	103.2				
1998*	614	604,724	357,130	974,365	100	100	103.3	101.2				
1999	273	643,284	362,971	1,036,840	100	100	108.4	103.0				

<sup>\*</sup> Revised actuarial assumptions.

<sup>\*</sup> Benefits amended.

<sup>\*\*\*</sup> Revised asset valuation method.

<sup>\*\*</sup> Percent funded on a total valuation asset and total actuarial accrued liability basis.

Revised inflation assumption

# ACTUARIAL SECTION

# **Summary Of Plan Provisions**

Our actuarial valuation of MSPRS as of September 30, 1999, is based on the present provisions of Public Act 182 of 1986, as amended.

### Regular Retirement

Eligibility — 25 years of credited service with no age requirement; or age 50 with 10 years credited service.

Annual Amount — If member has 25 or more years of credited service, 60% of final average compensation; if member has less than 25 years of credited service, total credited service time 2% of final average compensation.

Type of Final Annual Compensation — Average of 2 final years.

### Early Retirement

None.

### Deferred Retirement (vested benefit)

Eligibility — 10 years of credited service. Benefit commences at age 50.

Annual Amount — Computed as Regular Retirement benefit based on credited service and final average compensation at termination.

### **Duty-Disability Retirement**

Eligibility — No age or service requirement.

Annual Amount — 60% of final average compensation. Disability benefit plus workers' compensation benefit, if any, shall not exceed 100% of final average compensation.

### Non-Duty Disability Retirement

Eligibility — 10 years of credited service.

Annual Amount — 2.4% of final average compensation times years of credited service, to a maximum of 60% of final average compensation.

### Duty Death Before Retirement

Eligibility — No age or service requirement

Annual Amount — 60% of final average compensation is payable to surviving spouse; additional \$1,200 per year for each child under 18 is also payable. If no surviving spouse, children under 18 share in 60% benefit until attainment of age 18. If no spouse or children, dependent parents are eligible for 60% benefit (plus \$1,200 per dependent sibling under 18). Retirement benefit plus workers' compensation, if any shall not exceed 100% of final average compensation.

Lump Sum Payment — A \$1,500 funeral benefit is also payable.

# **Summary Of Plan Provisions (continued)**

### Non Duty Death Before Retirement

Eligibility — 10 years of credited service.

Annual Amount — 2.4% of final average compensation times years of credited service, to a maximum of 60% of final average compensation, payable to surviving spouse. If no surviving spouse, children under 18 share in benefit until attainment of age 18.

### Death After Retirement

The retired member's benefit continues to the surviving spouse. If no surviving spouse, children under 18 share in the continued benefit until attainment of age 18.

### Post-Retirement Cost-of-Living Adjustments

All members retiring (or leaving employment with vested benefits), and their survivors, are eligible for automatic 2% annual (non-compounded) benefit increases, with a maximum annual increase of \$500.

### Post - Retirement Health Insurance Coverage

Persons in receipt of retirement allowances, and their dependents, are eligible for 95% State-paid health insurance coverage and 90% State-paid dental and vision insurance.

### Member Contributions

None.

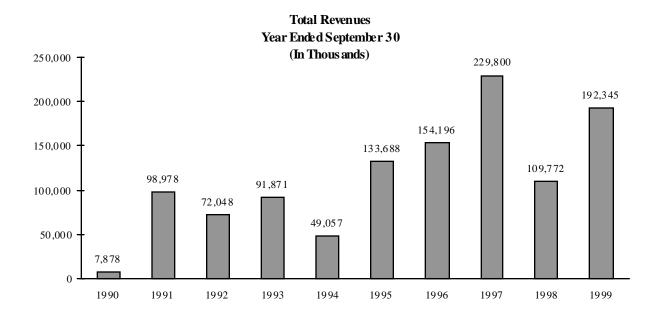
# STATISTICAL SECTION

# STATISTICAL SECTION

Schedule of Revenues by Source Schedule of Expenses by Type Schedule of Benefit Expenses by Type Schedule of Retired Members by Type of Benefit Schedule of Average Benefit Payments Ten Year History of Membership

# Schedule of Revenues by Source

Fis cal Year	•	Em	ployer Contri but	ions	_	
Ended Sept. 30	Member C <u>ontri bu ti</u>	-	% of An Covered P		Net Investment & Other Income	Total
1990	\$ 96,290	0 \$ 22,367,9	961 25.2	%	\$ 14,586,666	\$ 7,877,585
1991	57,61	7 28,732,9	958 31.4		70,187,267	98,977,842
1992	72,11	7 29,203,0	071 32.5		42,772,851	72,048,039
1993	30,06	5 31,183,0	21 35.9		60,657,772	91,870,858
1994	45,38	4 35,945,9	995 40.6		13,065,959	49,057,338
1995	71,00	8 37,754,3	338 36.1		95,862,258	133,687,604
1996	76,74	3 53,135,6	542 49.7		100,983,575	154,195,960
1997	712,799	9 51,851,6	631 47.1		177,235,892	229,800,322
1998	922,73	6 33,123,3	30.6		75,726,277	109,772,397
1999	1,000,51	8 34,447,8	386 29.1		156,926,728	192,345,132

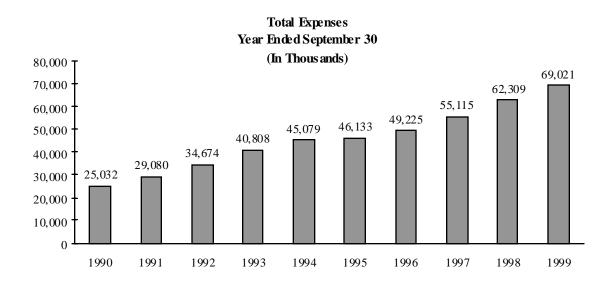


# STATISTICAL SECTION

# Schedule of Expenses by Type

Fiscal Year Ended Sept. 30	Benefit Payments*	Refunds and Transfers	Administrative Expenses	Total
1990	\$ 24,660,315		\$ 371,904	\$ 25,032,219
1991	28,686,901		393,003	29,079,904
1992	34,207,792	586	465,435	34,673,813
1993	40,446,933	1,743	359,160	40,807,836
1994	44,629,521		449,033	45,078,554
1995	45,639,290		493,400	46,132,690
1996	48,795,509		429,986	49,225,495
1997	54,912,395		202,828	55,115,223
1998	62,083,435		225,327	62,308,762
1999	68,693,133	4,694	322,997	69,020,824

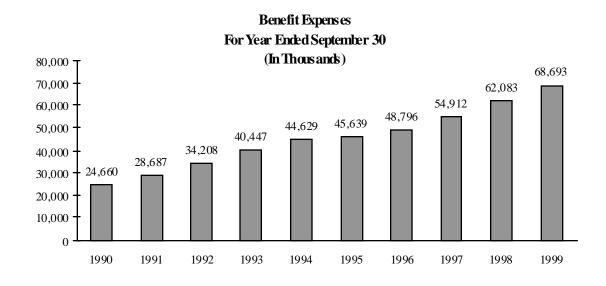
<sup>\*</sup>Includes health, dental and vision benefits.



# Schedule of Benefit Expenses by Type

Fiscal Year Ended Sept. 30	 Regular Benefits	]	Disability Benefits		neral nefits	Health Benefits*			Total		
1990	\$ 18,014,908	\$	1,379,133			\$	5,266,274	\$	24,660,315		
1991	20,573,564		1,534,544				6,578,793		28,686,901		
1992	23,797,297		1,760,059	\$	3,000		8,647,436		34,207,792		
1993	27,681,161		1,957,605		1,500		10,806,667		40,446,933		
1994	30,915,357		2,127,957		3,000		11,583,207		44,629,521		
1995	33,141,186		2,366,398				10,131,706		45,639,290		
1996	35,794,961		2,482,429		1,500		10,516,619		48,795,509		
1997	40,536,134		2,782,100				11,594,161		54,912,395		
1998	45,216,692		3,010,640				13,856,103		62,083,435		
1999	49,330,784		3,155,805				16,206,544		68,693,133		

<sup>\*</sup>Includes vision and dental benefits



# STATISTICAL SECTION

# Schedule of Retired Members by Type of Benefit September 30, 1999

Amount			Option					
Monthly Benefit	Number of Retirees	1	2	3	4	5	6	Life
\$ 001 - 400	39	30	1	3	2	3	0	39
401 - 800	130	94	6	4	10	0	16	130
801 - 1,200	443	230	151	31	4	19	8	443
1,201 - 1,600	302	214	42	23	11	6	6	302
1,601 - 2,000	155	118	10	11	6	3	7	155
2,001 - 2,400	232	181	23	19	6	0	3	232
2,401 - 2,800	400	377	6	9	3	2	3	400
2,801 - 3,200	352	343	4	4	1	0	0	352
3,201 - 3,600	128	127	0	0	0	0	1	128
3,601 - 4,000	27	26	0	1	0	0	0	27
Over 4,000	23	23	0	0	0	0	0	23
Totals	2231	1763	243	105	_43	33	44	2231

<sup>\*</sup> Type of Retirement

\*\*Selected Option

Life - 100% Joint and Survivors

<sup>1 -</sup> Normal retirement for age & service

<sup>2 -</sup> Survivor payment - normal retirement

<sup>3 -</sup> Duty disability retirement

<sup>4 -</sup> Non-duty disability retirement

<sup>5 -</sup> Survivor payment - duty death in service

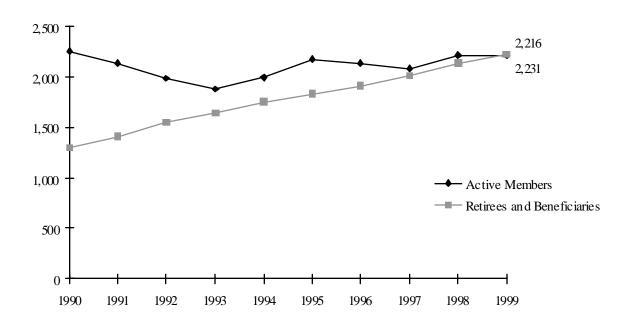
<sup>6 -</sup> Survivor payment - Non-duty death in service

# **Schedule of Average Benefit Payments**

Retirement Effective Dates	Years Credited Service														
	0-5			5-10		10-15		15-20	20-25		25-30		30+		To ta l
Period 10/1/94 to 9/3 0/9 5:															
Average Monthly Benefit	\$	742	\$	1,038	\$	763	\$	938	\$	1,253	\$	1,730	\$	2,137	\$ 1,644
Average final Average Salary		4,160		15,508		19,504		20,169		24,718		31,818		40,964	30,364
Number of Active Retirants		74		18		59		63		96		1,322		199	1,831
Period 10/1/95 to 9/30/96:															
Average Monthly Benefit	\$	757	\$	952	\$	77.5	\$	959	\$	1,255	\$	1,814	\$	2,180	\$ 1,709
Average final Average Salary		3,752		18,858		20,419		20,860		25,543		33,351		41,832	31,620
Number of Active Retirants		82		20		61		64		98		1,383		207	1,915
Period 10/1/96 to 9/3 0/97:															
Average Monthly Benefit	\$	750	\$	1,112	\$	789	\$	1,016	\$	1,324	\$	1,971	\$	2,295	\$ 1,840
Average final Average Salary		2,411		18,858		21,369		21,482		25,967		34,903		42,786	32,846
Number of Active Retirants		86		20		70		67		98		1,463		214	2,018
Period 10/1/97 to 9/3 0/9 8:															
Average Monthly Benefit	\$	73 1	\$	1,188	\$	819	\$	1,114	\$	1,351	\$	2,084	\$	2,392	\$ 1,936
Average final Average Salary		2,116		21,238		23,006		22,791		26,112		36,912		44,432	34,509
Number of Active Retirants		98		22		75		70		98		1,548		227	2,138
Period 10/1/98 to 9/30/99:															
Average Monthly Benefit	\$	746	\$	1,196	\$	856	\$	1,120	\$	1,401	\$	2,173	\$	2,489	\$ 2,006
Average final Average Salary		1,852		22,257		24,530		22,790		27,318		38,441		45,879	35,702
Number of Active Retirants		112		23		85		70		102		1,601		238	2,231

# STATISTICAL SECTION

# 10 Year History of Membership Fiscal Years Ended September 30



### ACKNOWLEDGMENTS

The Michigan State Police Retirement System's Comprehensive Annual Financial Report is prepared by the Office of Retirement Services, Finance and Administration Division. Finance staff of the division for the fiscal year 1998-1999 report included:

Jennifer Ashton
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